

own younger days, and the questions I wanted answered: they were answered negatively as a rule, and those that were positively so never allowed me to reconcile them with the facts around me, and I have since learned that they were mostly perversions of the truth, designed to secure a theological end. Little wonder I ceased to think by the time I got to school, and it is a matter of surprise to me that the examination system which followed did not convert a state of abeyance into one of absolute destruction.

There is no need to "make" thinking men; they are born to us if we will but retain, develop and strengthen the qualities that every healthy average child possesses. But to do this we want, above all else, thoughtful, intelligent and well-informed women who, as mothers, will recognise their duties to the State and will endeavour to retain and train the natural qualities, physical and intellectual alike, of the children that are to become the nation's men and women. The old style of domestic wife and mother—an uninteresting, mechanical drudge or a gaudy doll—may have been good enough for our forefathers, but for us it means loss of national time and energy which, if utilised, can be converted into factors capable of retaining the supreme position that we are fast losing. Granting that the results of a mother's pernicious training can be remedied in later life, it is obviously waste of valuable energy, time and money to organise an elaborate system of education to undo that which ought never to have been done. And, therefore, I urge that our national progress depends very largely upon "the hand that rocks the cradle": if it rocks that with an intelligent purpose, it will be well with our future men; if not, then England, like Tyre, Venice and Rome, "whose greatness it has inherited," "must be led, through prouder eminence, to less pitied destruction."

G. P. MUDGE.

#### THE ROYAL LIBRARY AT NINEVEH.<sup>1</sup>

OUR readers who are in the position of being able to recall the "discovery" of Nineveh, which was announced between the years 1845 and 1854, will have no difficulty in remembering that the exhuming of colossal bulls and bas-reliefs from the site of the palace of the great kings of Nineveh was almost contemporaneous with the discovery of the means whereby the wedge-shaped characters, which were found cut upon them in long, symmetrical lines, could be read and understood. It was a coincidence of the most remarkable kind that the excavations at Nineveh yielded at that time such a large mass of new material for Rawlinson, Norris and Hincks to work upon, and it may be safely said that the correct information concerning Bible history which they succeeded in producing from it convinced the general public of the trustworthiness of Rawlinson's system of decipherment more effectually than his epoch-making translation of the inscription of Darius the Great, which was cut on the face of the now famous rock of Behistun, would ever have done. The bulls and colossal figures and bas-reliefs, which Sir Henry Layard drew out of their hiding places, appealed strongly to the popular imagination, which already at that time saw in them the prototypes of the mysterious figures that the prophets of the Hebrew god Yahwe saw in their visions, but for the scientific seeker after the knowledge of the long-lost cuneiform language they did little. It was soon recognised that the texts engraved upon them contained many duplicates, and also that they did little more than set forth, in stereotyped and vaunting phrases, the names and titles which the kings of the Second Assyrian Empire arrogated to themselves. But further examination of the smaller objects which were found in the ruins of the Assyrian palace at Nineveh resulted in the discovery of a large collection of "tiles," as they were first called, made of baked clay, which were inscribed with texts written in cuneiform with minute characters, and this "find" is, for cuneiform decipherment, probably the

greatest which has ever been made. An investigation of these minutely written texts showed that they consisted of lists of cuneiform signs arranged on a definite plan, of lists of words and phrases, and of connected narratives, which might well come under the general description of "literature"; in fact, the thousands of tablets and fragments of tablets which had been sent home, without the least idea of their value having entered into the heads of those who found them, turned out to be neither more nor less than the fundamental matter upon which the whole of the great superstructure of Assyriology has been built. We now know of a certainty that, at the close of the eighth century before Christ, Sargon, king of Assyria, possessed a few tablets, the contents of which concerned the business of his kingdom, and that he kept these in a chamber in his palace. It seems also that his two successors, Sennacherib (B.C. 705–B.C. 681) and Esarhaddon (B.C. 681–B.C. 668), added other tablets to Sargon's, and that we may also regard the united collections of these great kings as the nucleus of the Royal Library at Nineveh.

The great literary king of Assyria was, however, Ashurbanipal, and it is to him that the world is indebted for whatever knowledge of the Assyrian and Sumerian language it possesses. This mighty hunter and warrior found time to take an interest in the welfare of the literature of his country, and he spared neither pains nor expense in the formation of his library and in making it to contain a truly representative collection of tablets. His interest was twofold, for he was anxious to preserve both the best works written in his own native Semitic language and those which had come down in a more or less fragmentary condition from the Sumerians, a mighty people who seem to have given to the Semitic inhabitants of Mesopotamia nearly all that they ever possessed in the way of literature. With this object in view he had copies of many of the great Sumerian literary compositions made, and to these he attached translations in Assyrian, arranged interlinearly, a fact which seems to indicate that the knowledge of Sumerian was disappearing from among his people when he began to reign. Literary compositions were, however, not the sole objects of his care, for he collected the materials necessary for learning and teaching both the Assyrian and Sumerian languages, and evidences of this are the important remains of the syllabaries, sign-lists, vocabularies, &c., compiled by his orders, which are now among the most precious possessions of our National Museum. Wherever rumour declared that a valuable document existed he sent scribes and messengers to take a copy, or copies, of it, and the accuracy of such copies is attested by the fact that defective or illegible words or passages in the archetype were generally indicated as such in the copy or copies made for Ashurbanipal.

The above preliminary remarks are sufficient to indicate the value of the thousands of baked clay tablets and fragments which were found at Nineveh; but it has for many years past been a problem of some magnitude to Assyriologists how best to make use of the mass of material which exists. It is manifestly impossible for every student of cuneiform to possess the time and means necessary for examining and copying texts from thousands of tablets, and besides, few students are sufficiently skilled in reading cuneiform from tablets to make it worth their while to devote months to the work.

The late Sir Henry Rawlinson made a noble attempt to lay before Assyriologists the best of the texts in his monumental publication entitled "The Cuneiform Inscriptions of Western Asia," but this work, after all, only contains a *selection* of the texts available, and at the time of publication no scholar possessed the knowledge necessary for arranging and classifying the various documents which existed among the remains of the works of the Royal Library at Nineveh. It must not be imagined

<sup>1</sup> "Catalogue of the Cuneiform Tablets in the Konjunktur Collection of the British Museum." By C. Bezold. 5 vols. Printed by order of the Trustees. (London, 1889–1900.)

that work of classification can ever become simple, for the greatest difficulty will be experienced for years to come in joining up the various fragments which go to form a complete tablet. At the sacking of Nineveh by the Medes, many of the tablets which were made and collected with such care by Ashurbanipal appear to have been wilfully broken, and fragments of them were scattered in all directions; some were destroyed by fire and others crushed into dust.

A visit to the Nineveh Gallery in the British Museum will explain the difficulty to the reader in a few minutes, for in the cases there will be seen exhibited several tablets, or large portions of tablets, which are composed entirely of little pieces which have been joined together by the skill of generations of students of Assyriology. There are examples in which three or four of the fragments which help to form a tablet have been brought home from Nineveh by three or four different "discoverers," and many tablets must remain imperfect until the pieces necessary to complete them have been brought home from the ruins of the great palace at Nineveh, *where they still lie awaiting the spade of the excavator.*

The work of publishing the texts from the Nineveh Library which was begun by Sir Henry Rawlinson was carried on by Norris and Smith, and at a later period a number of foreign scholars began to publish works which professed to give amended and correct versions of some of their copies; but all were unsatisfactory in a greater or lesser degree, because the groups of texts which were reproduced were incomplete. Every student felt that he had not got all the existing materials for his work before him, and that any result which he arrived at one day might be upset the next by the identification of a fragment hitherto unnoticed in the British Museum collections.

Matters went on in this fashion for some years, but at length the late Sir Henry Rawlinson took the matter up and brought before his fellow Trustees of the British Museum the bold suggestion that a complete catalogue of the Nineveh, or Konyunjik, Collection should be prepared under their direction and issued by them as a British Museum publication. There is no need to point out here the leading part which the Trustees of the British Museum have always taken in promoting the interests of Assyriology; but it may be said in passing that, but for their powerful aid in advocating the importance of the subject, and the publications of texts which they have issued, practically regardless of cost, that science could never have attained to the position it now occupies, and its progress would have been retarded for a generation. In accordance with their enlightened policy, the Trustees decided to print the proposed catalogue of tablets, and the bulky work which we now have before us is the result.

The "Catalogue of the Cuneiform Tablets in the Konyunjik Collection of the British Museum" was prepared by Dr. C. Bezold, who is now professor of Assyriology in the University of Heidelberg, and is the author of some other works on his special subject. The Catalogue fills five volumes, which were published in 1889, 1891, 1893, 1896 and 1899 respectively, and contains 1949 pages, large royal 8vo, of descriptions of tablets; 265 pages of "General Index"; 154 pages of "Index of Reference Numbers"; a Bibliography of 13 pages; a brief Introduction of some 18 pages, besides the lists of texts published in Rawlinson's great work, "The Cuneiform Inscriptions of Western Asia," and several pages of preliminary matter issued with each of the first four volumes. The plan adopted by Dr. Bezold is, first, to give the size of each tablet or fragment, and to state, if a fragment, its position in the tablet of which it once formed part, *i.e.* he tells the reader if the fragment belongs to the top, middle, or bottom part of the tablet. These remarks are followed by details concerning

the style of writing, its state of preservation, and notes which will serve to identify it. Next we are usually told what the contents of the tablet are, but if this is not possible the general character of the inscription is clearly indicated; extracts from colophons, "catch-lines," &c., are often given in the original cuneiform, as well as many passages of importance from a linguistic or historical point of view. Last, but not by any means least in importance, Dr. Bezold tells us under the description of each document where the text has been published, or quoted, or referred to, or translated, so that up to the time of the publication of each volume the Catalogue was not only a guide to the tablets, but also to the published literature which related to it. At the end of each description we find given the number by which it is known in the registers of the British Museum.

An objection which will be made to the usefulness of the work is that the tablets described are not arranged in classes, but this may fairly be met by referring the objector to the very full General Index, which we have already mentioned, and its headings and subheadings. Thus, under the heading "Letters" we have twenty-seven closely printed columns of numbers, in which the reader is told the number of nearly every letter and report catalogued in the work and the page where the description of each will be found; the subheadings state which letter refers to public and which to private affairs, and the groups are usually very well and clearly defined. With many subjects, however, the classification might have been carried much further, and the subheadings might have been multiplied with great benefit to every student of the Catalogue; on the other hand, the page numbers have nearly doubled the size of the Index, and might with advantage to him have been omitted so far as K numbers are concerned.

We think the decision to print the descriptions under the register numbers was a wise one, for beyond all doubt it has tended to advance the progress of Assyriology, and has materially aided students of Assyrian in both hemispheres; had it been decided to classify the tablets and fragments before printing, it is doubtful if Dr. Bezold's work would ever have seen the light.

The boundaries between astrology and astronomy, and magic and religion, and legend and history were so loosely defined by the Assyrian *savants* that the student of to-day is often sorely puzzled as to the class in which he should group certain documents, and experience shows that his doubts on the subject may be as far off from satisfaction five years hence as they are to-day.

In addition to the general contents of the volume described above, mention must be made of the twelve excellent plates, in which a number of cuneiform tablets and fragments, selected chiefly for their forms and philological importance, have been reproduced by a photographic process. With the help of these and the remarks which Dr. Bezold makes in his Introduction, the intelligent reader will have no difficulty in gaining a good general idea of the principal classes of tablets which are to be found in the Nineveh Collection, and of their appearance, and with care he may even make some progress in the difficult subject of palæography. It will surprise no one to learn that the student who has specialised in any one small branch of Assyriology will be able to pick holes in some parts of Dr. Bezold's work; but in a progressive science like Assyriology this can never be avoided, especially as the publication of the Catalogue extended over a period of ten or eleven years. In fact, Dr. Bezold has himself supplied, in the later volumes of his Catalogue, the information which has enabled others to modify some of his statements and descriptions in the early parts of his monumental publication.

The space at our disposal will not admit of any even approximately detailed account of the contents of Ashurbanipal's great Library, but a general indication of the



chief classes of literature preserved in it must be added here.

Of almost the first importance for us are the large official authentic annals which were drawn up under the personal supervision of the high officials of the king, from which we gain very full accounts of the military expeditions undertaken by Sargon II., Sennacherib, Esarhaddon, and Ashurbanipal, and of their building operations. Intimately connected with these were the letters, despatches and reports written chiefly by the king's officials in various parts of the country, who by this means kept him informed of the progress of events in the countries under their jurisdiction. This class of document is of peculiar interest, and being in many cases dated they often afford precise information about important matters.

Next in importance come the tablets which deal with chronography and chronology, and by means of the so-called "Eponym Canon" it is possible to fix with exactness the dates of events which took place from about B.C. 900 to B.C. 640.

The business side of Assyrian life is represented by a considerable number of "contracts," which relate to all the principal matters concerning the transfer for payment of human beings, and of property of all kinds.

A very large class of tablets deals with astrology, and provides innumerable examples of omens of all kinds; these prove that the warlike Assyrian must have lived in a state of almost abject fear of the various spirits and demons with whom he peopled heaven and earth. Every event which happened was construed as a portent, and the Assyrian astrologer must have spent most of his time in tabulating forecasts. Diseases were cured by means of incantations and magical formulæ, for all diseases, both of mind and body, were believed to arise through the evil influences of the stars; such influences could be diverted, however, by the use of certain herbs, plants, stones, and portions of the bodies of animals. The ghost, the "evil foot" at the door, the evil dream, the bite of a snake, the sting of a scorpion, were all treated in much the same way, *i.e.* by magical means. Two great series of incantations have been identified, and the rubrics of some of the texts reveal a depth of superstition in the mind of the Assyrian which seems almost incredible. The burning of magical figures made of clay, bitumen, honey, flour, bronze, or wood during the recital of magical formulæ was, of course, common, and it is quite clear, from the documents of this class, that the Assyrians thoroughly earned their name of "magicians and sorcerers." Curiously enough, the Library included large numbers of prayers, many of which contain expressions of lofty spiritual ideas, but these show at the same time that the Assyrian religion never freed itself from the shackles of the basest superstition. Many religious texts describe and contain instructions for the performance of important rites and ceremonies, and most minute instructions concerning the offering up of sacrifices, the festivals of the gods, the dress of the priests, &c.

The legendary lore of the Assyrians is of peculiar interest, for it has preserved the history of the Creation and the account of the Deluge, which were incorporated by the Jewish compilers of the Hebrew Bible in Babylon.

We have already spoken at some length of the syllabaries, sign-lists and vocabularies which Ashurbanipal had drawn up, with Sumerian renderings arranged interlinearly, and from a modern point of view these will probably be regarded as the most valuable section of his Library. Dr. Bezold's Catalogue represents a vast deal of time and patience and hard work, and he is to be congratulated on the completion of a long and laborious task. There is no doubt that it will stimulate many in the prosecution of their Assyrian studies, and that it will greatly facilitate the rejoining of fragments of tablets; it will also help an investigator of any given class of tablets to produce an edition of its texts, which may be

regarded as final until the tablets which still lie buried under the palace ruins at Nineveh are brought home to Bloomsbury. The thanks of every student of Assyrian are due to the Trustees of the British Museum for the production of such a costly but useful Catalogue.

#### NAVAL BOILERS.

THE interim report of the Admiralty Committee upon "Modern Types of Boilers for Naval Purposes," recently published, has caused much discussion; but, up to the present, it appears to have satisfied nobody and not to help the Admiralty much to settle the grave question of the best boilers for the future in the Navy. It gives the views, which are not so mature as could be desired, of the mercantile marine engineers of which the committee was chiefly composed, the experience of whom, up to the date of the appointment of the committee, had evidently been limited to the discarded cylindrical boiler.

The committee were asked (1) whether they consider water-tube boilers more suitable than cylindrical boilers for naval purposes; (2) if so, whether the Belleville is the best type of water-tube boiler for H.M. Navy; and (3) for suggestions on the extent to which any particular type or types of boilers should be fitted in new vessels. The replies given in the report are that "a satisfactory type of water-tube boiler" would be more suitable than the cylindrical boiler; that the Belleville boiler is not the type of water-tube boiler best adapted to the requirements of H.M. Navy; that Belleville boilers be not fitted in any ships not yet ordered, nor in any ships recently ordered for which the work upon the boilers is not too far advanced; but that they be retained in all completed ships and in all ships under construction for which the work is so far advanced as to involve delay in completion if the boilers were to be altered. The committee state that they have had under consideration four types of large straight tube boilers which have been tried in war vessels, *viz.*, the Babcock and Wilcox, the Niclausse, the Dürr, and the Yarrow large tube boiler; and they suggest that "if a type of water-tube boiler has to be decided on at once for use in the Navy," some or all of these be taken. They recommend that boilers of these types be made and experimented with at the earliest possible date; and they call attention to the practical objections that have been found to the construction and working of the Belleville boiler.

The committee make the important admission that when the Belleville boiler was introduced into the Navy they consider "there was justification for then regarding it as the most suitable type of water-tube boiler for the Navy."

The only naval engineer upon the committee concurred with the report except that he considered, although the Belleville boiler has certain undesirable features, "it is a good steam generator, which will give satisfactory results when it is kept in good order and worked with the required care and skill"; and he sees "no necessity for delaying the progress of ships which have been designed for Belleville boilers in order to substitute another type of boiler."

This report does not satisfy the parliamentary opponents of the Belleville boiler, who appear to object to water-tube boilers of all kinds, and to advocate a return to the cylindrical boiler. In spite of the great advance recently made in the designs of boilers of water-tube type, they argue that because early attempts to use water-tube boilers at sea were unsuccessful, it is hopeless to expect any good results from those now available. These opinions are not endorsed by engineers of wider experience, especially by the designers of machinery for warships, who understand better the relative advantages and disadvantages